

CLAIMS

1. An addition-curable organopolysiloxane resin composition having, in a state of a cured body, a hardness of 60 to 100 at 25°C and of 40 to 100 at 150°C as measured in accordance with the provisions of ASTM D2240-86, said composition comprising:

(A) 100 parts by weight of an organopolysiloxane resin represented by the following average compositional formula:



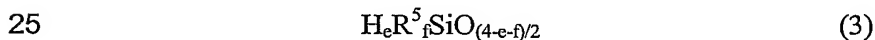
(where R¹ designates alkenyl groups with 2 to 10 carbon atoms, R² designates substituted or non-substituted univalent hydrocarbon groups (except for alkenyl groups), at least 50 mole % of R² being comprised of phenyl groups; “a” is within the range of 0.09 to 0.16, and “b” is within the range of 1.00 to 1.20), said organopolysiloxane resin being comprised of at least alkenyl groups and phenyl groups and having a weight-average molecular weight, with polystyrene as reference and determined by gel chromatography, equal to or exceeding 3000;

(B) 10 to 50 parts by weight of an organooligosiloxane represented by the following average compositional formula:



(where R³ designates alkenyl groups with 2 to 10 carbon atoms, R⁴ designates substituted or non-substituted univalent hydrocarbon groups (except for alkenyl groups), at least 10 mole % of R⁴ being comprised of phenyl groups; “c” is within the range of 0.60 to 0.80, and “d” is within the range of 1.50 to 2.10), said organooligosiloxane being comprised of at least alkenyl groups and phenyl groups;

(C) 20 to 100 parts by weight of an organohydrogenoligosiloxane or organohydrogenopolysiloxane represented by the following average compositional formula:



(where R⁵ designates substituted or non-substituted univalent hydrocarbon groups (except for alkenyl groups), at least 20 mole % of R⁵ being comprised of phenyl groups; “e” is

within the range of 0.35 to 0.65, and “f” is within the range of 0.90 to 1.70); and

(D) an addition-reaction catalyst in a catalytic quantity.

2. The addition-curable organopolysiloxane resin composition of Claim 1, wherein: in said
5 average compositional formula (1), “a” is within the range of 0.10 to 0.15, and “b” is within the range of 1.00 to 1.15; in said average compositional formula (2), “c” is within the range of 0.60 to 0.80, and “d” is within the range of 1.50 to 2.00; and in said average compositional formula (3), “e” is within the range of 0.35 to 0.65, and “f” is within the range of 1.30 to 1.70.

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3. The addition-curable organopolysiloxane resin composition according to Claim 1 or Claim 2, wherein component (B) is an organooligosiloxane expressed by the following formula:



- 15 (where R^7 designates alkenyl groups with 2 to 10 carbon atoms, R^8 , each independently, may designate substituted or non-substituted univalent hydrocarbon groups (except for alkenyl groups), at least 10 mole % of R^8 being comprised of phenyl groups; and “g” is 2 or 3), said organooligosiloxane being comprised of at least alkenyl groups and phenyl groups.

- 20 4. An optical material that comprises a cured body obtained by curing the following components via an addition reaction:

(A) 100 parts by weight of an organopolysiloxane resin represented by the following average compositional formula:



- 25 (where R^1 designates alkenyl groups with 2 to 10 carbon atoms, R^2 designates substituted or non-substituted univalent hydrocarbon groups (except for alkenyl groups), at least 50 mole % of R^2 being comprised of phenyl groups; “a” is within the range of 0.09 to 0.16, and

“b” is within the range of 1.00 to 1.20), said organopolysiloxane resin being comprised of at least alkenyl groups and phenyl groups and having a weight-average molecular weight, with polystyrene as reference and determined by gel chromatography, equal to or exceeding 3000;

(B) 10 to 50 parts by weight of an organooligosiloxane represented by the following
5 average compositional formula:



(where R^3 designates alkenyl groups with 2 to 10 carbon atoms, R^4 designates substituted or non-substituted univalent hydrocarbon groups (except for alkenyl groups), at least 10 mole % of R^4 being comprised of phenyl groups; “c” is within the range of 0.60 to 0.80, and
10 “d” is within the range of 1.50 to 2.10), said organooligosiloxane being comprised of at least alkenyl groups and phenyl groups;

(C) 20 to 100 parts by weight of an organohydrogenoligosiloxane or organohydrogenpolysiloxane represented by the following average compositional formula:



(where R^5 designates substituted or non-substituted univalent hydrocarbon groups (except for alkenyl groups), at least 20 mole % of R^5 being comprised of phenyl groups; “e” is within the range of 0.35 to 0.65, and “f” is within the range of 0.90 to 1.70); said cured body having a hardness of 60 to 100 at 25°C and 40 to 100 at 150°C as measured in accordance with the provisions of ASTM D2240-86.
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5. The optical material according to Claim 4, wherein “a” in said average compositional formula (1) is within the range of 0.10 to 0.15, “b” is within the range of 1.00 to 1.15, wherein “c” in said average compositional formula (2) is within the range of 0.60 to 0.80, “d” is within the range of 1.50 to 2.00, and wherein “e” in said average compositional
25 formula (3) is within the range of 0.35 and 0.65, and “f” is within the range of 1.30 to 1.70.

6. The optical material according to Claim 4 or Claim 5, wherein component (B) is an

organooligosiloxane expressed by the following formula:



(where R^7 designates alkenyl groups with 2 to 10 carbon atoms, R^8 , each independently, may designate substituted or non-substituted univalent hydrocarbon groups (except for alkenyl groups), at least 10 mole % of R^8 being comprised of phenyl groups; and “g” is 2 or 3), said organooligosiloxane being comprised of at least alkenyl groups and phenyl groups.

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